University of California
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Berkeley, California

SEASONAL LABOR NEEDS FOR CALIFORNIA CROPS

LAKE COUNTY

Progress Report No. 17

by

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Preliminary -- Subject to Correction

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(Farm Labor Survey -- July-December, 1936)

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Seasonal Labor Needs for California Crops

Lake County

Scope of Presentation.-- The following considerations govern the presentation of this progress report:

1. The data are confined to the area indicated above.

2. The data are confined solely to crops, livestock needs being ignored.

3. The findings apply only to occasional or seasonal labor requirements as distinguished from labor contributed by farm operators and by workers employed on a year-round or regular basis of employment.

4. Attention is concentrated upon workers required for hand tasks -- planting, thinning, weeding, hoeing, and harvesting -- without including teamsters, tractor drivers, irrigators, and shed packers of vegetables or fruits.

5. The presentation includes the so-called migratory, transient, or roving workers which comprise an important source of help needed in connection with certain tasks and at "peak" times which seasonally arise in connection with many field, truck, and fruit crops commercially produced in California.

6. This report is confined to California's need for seasonal agricultural workers because of the more pressing problems liable to arise in connection therewith. A later study is planned which will deal with other kinds of labor involved in the production of California's many crops.

Brief Description of the Area.-- Lake County lies in the midst of the Coast Range Mountains, about 70 miles north of San Francisco Bay and about midway between the Pacific Ocean on the west and the Sacramento Valley on the east. It is 60 miles long from north to south and 15 to 25 miles wide from east to west. It has an area of 792,320 acres, of which only 47,475 are classified as crop land by the United States Census of 1935. The important farming areas are located in the central part of the county at an elevation of from 1,400 to 1,500 feet above sea level. The principal soils which are of agricultural value are clay loams and alluvial soils. Dairying is the most important agricultural enterprise of the county; pears are the principal crop of the county.

Crops, Acreages, and Production.-- The basis used in calculating seasonal need for labor in addition to that furnished by farm operators and regularly employed workers appears as table 1.

TABLE 1

Basis for Calculating Seasonal Labor Requirements
Lake County

Crop	Acreage	Production
Field crops:*		
Alfalfa hay †	5,999	15,946 tons

Table continued on next page.

Progress Report No. IV

Seasonal Labor Needs for California Crops

Lake County

Scope of Presentation.--- The following considerations govern the presentation of this progress report:

1. The data are confined to the area indicated above.

2. The data are confined solely to crops. Livestock needs being ignored.

3. The findings apply only to occasional or seasonal labor requirements as distinguished from labor contributed by farm operators and by workers employed on a year-round or regular basis of employment.

4. Attention is concentrated upon workers required for hand tasks -- planting, thinning, weeding, hoeing, and harvesting -- without including tractor drivers, irrigators, and shed packers of vegetables or fruits.

5. The presentation includes the so-called migratory, transient, or roving workers which comprise an important source of help needed in connection with certain tasks and at "peak" times which are commonly arise in connection with many field, truck, and fruit crops commercially produced in California.

6. This report is confined to California's need for seasonal agricultural workers because of the more pressing problems likely to arise in connection therewith. A labor study is planned which will deal with other kinds of labor involved in the production of California's many crops.

Brief Description of the Area.--- Lake County lies in the midst of the Coast Range Mountains, about 90 miles north of San Francisco Bay and about midway between the Pacific Ocean on the west and the Sacramento Valley on the east. It is 80 miles long from north to south and 18 to 26 miles wide from east to west. It has an area of 732,320 acres, of which only 47,478 are classified as crop land by the United States Census of 1938. The important farming areas are located in the central part of the county at an elevation of from 1,400 to 1,600 feet above sea level. The principal soils which are of agricultural value are clay loams and alluvial soils. Dairying is the most important agricultural enterprise of the county; pears are the principal crop of the county.

Crops, Acreages, and Production.--- The basis used in evaluating seasonal need for labor in addition to what furnished by farm operators and regularly employed workers appears as table I.

TABLE I

Basis for Estimating Seasonal Labor Requirements
Lake County

Crop	Acreage	Production
Field crops* Alfalfa hay 1/	8,909	16,946 tons

Table continued on next page.

Table 2 continued.

Crops	Acreage	Production
Corn for grain †	240	5,382 bushels
Grain -- barley	2,900	70,323 bushels
oats	515	14,845 bushels
wheat	2,133	38,491 bushels
Hay -- small grain	2,687	3,685 tons
other grasses	2,212	2,380 tons ≠
Hops	124	817 bales in 1935 (1,267 in 1934)
Seed crops:		
Carrots	120	
Lettuce	50	
Onions	10	
Parsnips	15	
Vegetable crops: §		
String beans -- canning	100	600 tons
Carrots †	30	--
Fruit and nut crops: ¶		
Almonds	545	48 tons
Apples †	195	--
Apricots †	7	--
Cherries †	12	--
Grapes	480	960 tons
Olives †	33	--
Peaches †	72	--
Pears -- Bartlett	7,752	(20,844 tons of which 5,257 tons
Winter	56	((fresh weight) were dried
Prunes	1,674	2,513 tons (dry weight) ≠
Walnuts	2,155	481.5 tons -- 873,900 pounds merchantable
Chestnuts †	15	--

* Data from United States Census, 1935.

† Use of seasonal labor on these crops inconsequential and hence ignored.

≠ The following drying ratios apply to these crops:

Hops 3 1/3 to 1 Prunes 2 1/4 to 1

§ Data from Federal State Crop Reporting Service. Acreage of specified vegetable crops by counties. 1935. Beans doubled in 1936.

¶ From Stokes, Sydney J., Agricultural Commissioner, Lake County, and L. C. Barnard, County Agent, United States Department of Agriculture.

Operations Requiring Seasonal Labor and Time of Need.-- Farm operations requiring the use of seasonal or occasional labor for the various crops raised in Lake County are indicated in table 2. This tabulation does not include the employing of shed workers needed to wash, pack, and prepare various commodities for shipping and marketing.

Crops	Acreage	Production
Corn for grain †	240	6,882 bushels
Grain -- barley	5,000	70,238 bushels
oats	315	14,846 bushels
wheat	2,133	50,401 bushels
Hay -- small grain	2,884	3,805 tons
other grasses	3,212	5,380 tons
Hops	154	817 bales in 1936 (1,207 in 1934) ‡
Seed crops:		
Carrots	120	
Lettuce	80	
Onions	10	
Parsnips	15	
Vegetable crops: §		
String beans -- canning	100	800 tons
Carrots †	30	--
Fruit and nut crops: ¶		
Almonds	648	40 tons
Apples †	135	--
Apricots †	7	--
Cherries †	12	--
Grapes	480	360 tons
Olives †	32	--
Peaches †	72	--
Pears -- Bartlett	1,752	(80,864 tons of which 6,259 tons
Walnuts	1,874	2,613 tons (dry weight) ¶
Prunes	1,874	(fresh weight) were dried
Miscellaneous		
Chestnuts †	15	--

† Data from United States Census, 1935.

‡ Use of seasonal labor on these crops inconsequential and hence ignored.

§ The following drying ratios apply to these crops:

Hops 8 1/2 to 1 ... Prunes 2 1/2 to 1

¶ Data from Federal-State Crop-Reporting Service. Acreage of specified vegetable crops by counties, 1938. Data doubled in 1936.

From Stokes, Sydney A., Agricultural Commissioner, Lake County, and L. C. Barnard, County Agent, United States Department of Agriculture.

Operations Requiring Seasonal Labor and Time of Need.-- Farm operations requiring the use of seasonal or occasional labor for the various crops raised in Lake County are indicated in table 3. This tabulation does not include the employment of shop workers needed to "wash, peak, and prepare various commodities for shipping and marketing.

TABLE 2

Operations Requiring Use of Seasonal Labor and Times of Needs by Crops

Lake County

Crop	Operation	Time of need	Per cent of work done by seasonal help	Output per man-day
Field crops:				
Grain	Harvesting	June 15-30 -- 50 per cent of acreage July 1-15 -- 50 per cent of acreage	50	5 acres
Hay -- other than alfalfa	Mowing	June 1-15 -- all of acreage	50	7.5 acres
	Raking	June 1-15 -- all of acreage		15.0 acres
	Shocking	June 1-15 -- all of acreage		30.0 acres
Hops	Pruning, stringing, and training	March 1-31 April 1-30 May 1-31 June 1-30	100	Total of 15 man-days per acre for season
	Picking	August 20-31 -- 50 per cent of crop September 1-10 -- 50 per cent of crop	100	215 pounds (green weight)
	Drying	August 20-31 -- 50 per cent of crop September 1-10 -- 50 per cent of crop	66	4,000 pounds (green weight)
	Baling	September 10-30 -- all of crop	70	12 bales of 200 pounds (dry weight)
Seed crops:				
Carrot seed	Planting	December -- 50 per cent of acreage January -- 50 per cent of acreage	100	0.5 acre
	Hoeing	April -- 2/3 of job May -- 1/3 of job	100	Total of 3 man-days per acre
	Cutting -- by hand	August 20-31 -- 20 per cent of acreage September 1-30 -- 60 per cent of acreage October 1-10 -- 20 per cent of acreage	100	0.4 acre
	Threshing	September 1-30 -- 60 per cent of acreage October 1-20 -- 40 per cent of acreage	80	0.33 acre
Lettuce seed	Thinning	May -- all of acreage	100	0.5 acre

Table continued on next page.

TABLE 2

Operations Requiring Use of Seasonal Labor and Times of Needs by Crops

Lake County

Crop	Operation	Time of need	For each of work done by seasonal help	Output per man-day
Field crops:				
Grain	Harvesting	June 15-30 -- 50 per cent of acreage July 1-15 -- 50 per cent of acreage	50	5 acres
Hay -- alfalfa than alfalfa	Mowing Raking Shocking Pruning, stripping, and trimming	June 1-15 -- all of acreage June 1-15 -- all of acreage June 1-15 -- all of acreage March 1-31 April 1-30 May 1-31 June 1-30	50 50 100	7.5 acres 15.0 acres 30.0 acres Total of 15 man-days per acre for season
	Picking	August 20-31 -- 50 per cent of crop September 1-10 -- 50 per cent of crop	100	815 pounds (green weight)
	Drying	August 20-31 -- 50 per cent of crop September 1-10 -- 50 per cent of crop	50	4,000 pounds (green weight)
	Baling	September 10-30 -- all of crop	10	12 bales of 200 pounds (dry weight)
Seed crops:				
Carrot seed	Planting	December -- 50 per cent of acreage January -- 50 per cent of acreage	100	0.5 acre
	Hoeing	April -- 1/3 of job May -- 1/3 of job	100	Total of 5 man-days per acre
	Cutting -- by hand	August 20-31 -- 50 per cent of acreage September 1-30 -- 50 per cent of acreage October 1-10 -- 50 per cent of acreage	100	0.4 acre
	Threshing	September 1-30 -- 50 per cent of acreage October 1-20 -- 50 per cent of acreage	50	0.32 acre
Lettuce seed	Thinning	May -- all of acreage	100	0.8 acre

Table continued on next page.

Table 2 continued.

Crop	Operation	Time of need	Per cent of work done by seasonal help	Output per man-day
Lettuce seed (cont.)	Hoeing	June -- all of acreage	100	0.5 acre
	Cutting	August 20-31 -- 20 per cent of crop September 1-30 -- 60 per cent of crop October 1-10 -- 20 per cent of crop	100	0.33 acre
	Threshing	September 1-30 -- 60 per cent of acreage October 1-20 -- 40 per cent of acreage	80	0.5 acre
Onion seed	Planting	December -- 50 per cent of acreage January -- 50 per cent of acreage	100	0.3 acre
	Hoeing	April -- 2/3 of job May -- 1/3 of job	100	Total of 3 man-days per acre
	Cutting -- by hand	August 15-31	100	1/8 acre
	Threshing, rolling, screening, and washing	September 1-15	90	4 man-days per acre
Parsnip seed	Planting	December -- 50 per cent of acreage January -- 50 per cent of acreage	100	0.5 acre
	Hoeing	April -- 2/3 of job May -- 1/3 of job	100	Total of 3 man-days per acre
	Harvesting	August -- all of acreage	100	0.5 acre
	Threshing	September -- all of acreage	80	0.33 acre
Vegetable crops: Beans -- string	Picking -- for canning	July 15-31 -- 20 per cent of crop August 1-31 -- 50 per cent of crop September 1-30 -- 30 per cent of crop	100	250 pounds
Fruit and nut crops: Almonds	Knocking	August 1-31 -- 50 per cent of crop September 1-30 -- 50 per cent of crop	100	150 pounds

Table continued on next page.

Table 2 continued.

Crop	Operation	Time of need	Per cent of work done by seasonal help	Output per man-day
Almonds (cont.)	Hulling	August 1-31 -- 50 per cent of crop September 1-30 -- 50 per cent of crop	50	500 pounds
Grapes	Pruning	January 1-31 -- 40 per cent of acreage February 1-28 -- 40 per cent of acreage March 1-31 -- 20 per cent of acreage	50	0.75 acre
	Picking	September 20-30 -- 40 per cent of crop October 1-31 -- 60 per cent of crop	90	2,400 pounds
Pears	Pruning	November 1-30 -- 15 per cent of job December 1-31 -- 25 per cent of job January 1-31 -- 25 per cent of job February 1-28 -- 25 per cent of job March 1-15 -- 10 per cent of job	40	0.2 acre
	Brush disposal	November 1-30 -- 15 per cent of job December 1-31 -- 25 per cent of job January 1-31 -- 25 per cent of job February 1-28 -- 25 per cent of job March 1-15 -- 10 per cent of job	40	5 acres
	Blight control -- 8 times over acreage	May June July	50	Varies greatly -- average 4 man-days per acre
	Picking	July 25-31 -- 5 per cent of crop August 1-31 -- 80 per cent of crop September 1-30 -- 15 per cent of crop	90	2,000 pounds
	Cutting for drying	August 15-31 -- 50 per cent of job September 1-30 -- 50 per cent of job	100	1,375 pounds (fresh weight)

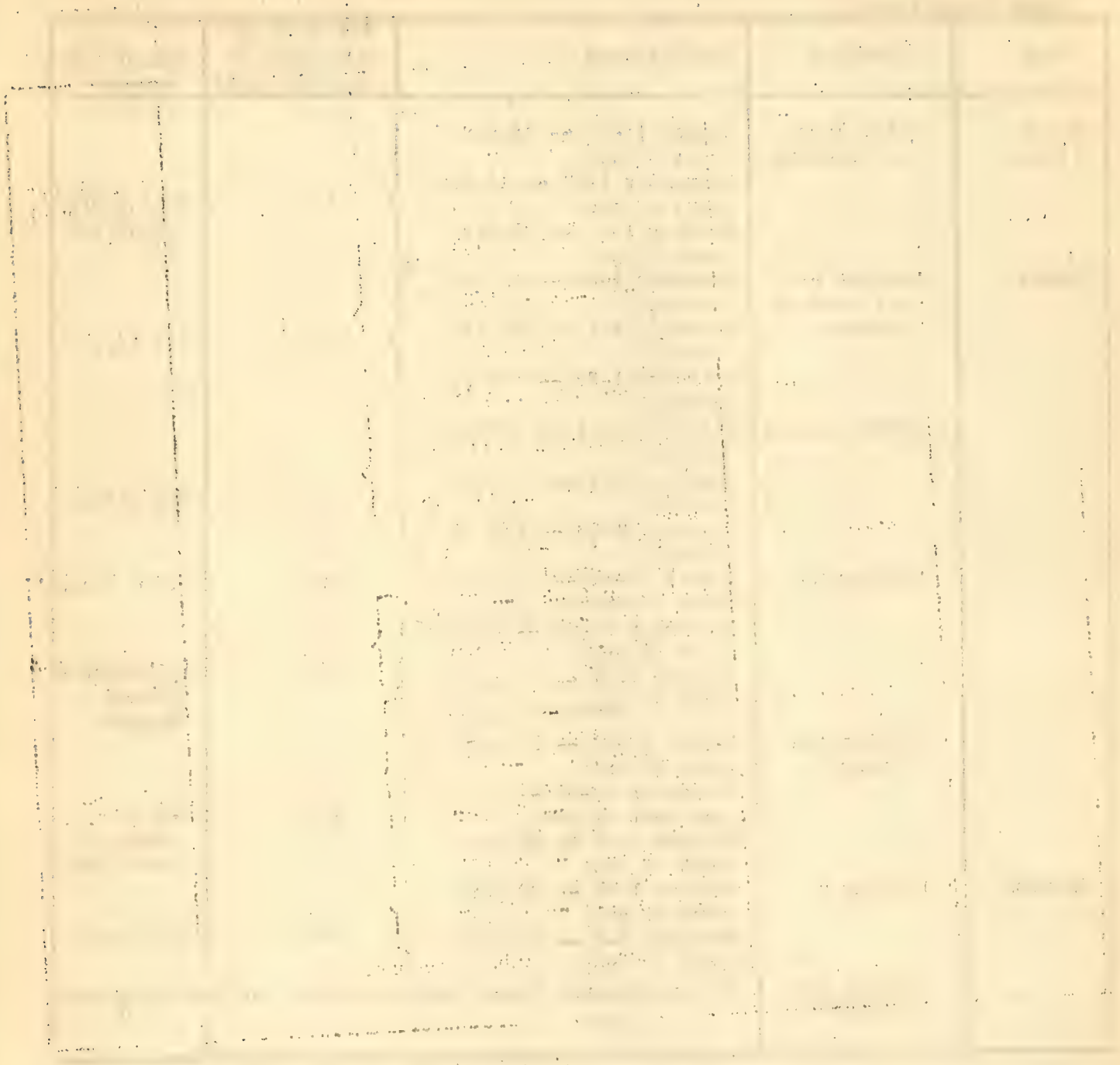
Table continued on next page.

Table 2 continued.

Crop	Operation	Time of need	Per cent of work done by seasonal help	Output per man-day
Pears (cont.)	Other labor in dry-yard	August 15-31 -- 45 per cent of job September 1-30 -- 45 per cent of job October 1-30 -- 10 per cent of job	100	26.5 hours per fresh ton
Prunes	Pruning -- 50 per cent of acreage	December 1-31 -- 1/3 of acreage January 1-31 -- 1/3 of acreage February 1-28 -- 1/3 of acreage	40	0.5 acre
	Brush burning	December 1-31 -- 1/3 of acreage January 1-31 -- 1/3 of acreage February 1-28 -- 1/3 of acreage	40	2.5 acres
	Picking up	August 20-31 -- 10 per cent of crop*	90	2,500 pounds
		September 20-30 -- 30 per cent of crop October 1-31 -- 60 per cent of crop	90	1,250 pounds (fresh weight)
	Dipping and drying	August 20-31 -- 10 per cent of crop September 20-30 -- 30 per cent of crop October 1-31 -- 60 per cent of crop	100	8.3 man-hours per fresh ton
Walnuts	Picking up	October 1-31 -- 90 per cent of crop November 1-7 -- 10 per cent of crop	80	300 pounds
	Hulling (by machine)	Use of seasonal labor inconsequential and hence ignored.		

* Sugar prunes ripen earlier than French prunes and average larger in size.

Findings of Seasonal Labor Needs.-- Details and summaries of seasonal labor requirements of Lake County agriculture are presented as table 3. The "size of task" are figures drawn from table 1, in terms of either acreage or output in tons, crates, boxes, or whatever unit is commonly used. The "output per man-day" is an average figure for the entire acreage or output figured in crates, hampers, boxes, or other units as indicated in the table. If the work is of a nature that requires a crew, different members of which perform different tasks, then the average shown is per man based on the entire crew. Length of day is 9 hours, November to February; 10 hours, March to October, unless otherwise stated. Wide variations in output occur between farm and farm, field and field, and season and season, because of



differences in soil types, climatic conditions, weeds, yields, and other factors influencing the amount of work that a laborer can perform in a given day. Moreover, the basis of output is a mature, experienced male worker without reference to use of women, children, and more or less inexperienced help that is sometimes used in connection with certain of the tasks requiring use of seasonal workers. The column headed "available days" reflects (a) limitations set from the period within which the work must be performed because of the nature of the task, such as transplanting, thinning, weeding, and cutting, and (b) available days as determined by weather conditions, inclement weather reducing the number of days when a required task can be performed. The "required number of individuals" is given in terms of workers as noted above in connection with "output per man-day."

It is probable that the estimated number of workers required, as recorded in table 3, will often be too low, for the reason that "peaks" frequently occur, during which an unusually large proportion of the job is done in a very short period. This would naturally require a much greater number of workers than when the work is spread over a longer period, even though the total amount of labor (in man-days) remains the same.

TABLE 3

Seasonal Labor Needs -- Lake County -- by Months and Tasks

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
January	Carrot seed: Planting	60 acres	0.5 acre	120	14	9
	Onion seed: Planting	5 acres	0.3 acre	17	14	2
	Parsnip seed: Planting	7.0 acres	0.5 acre	14	14	1
	Grapes: Pruning	96 acres†	0.75 acre	128	14	10
	Pears: Pruning	781 acres†	0.2 acre	3,905	14	279
	Brush disposal	781 acres	5.0 acres	157	14	12
	Prunes: Pruning	223 acres†	0.5 acre	446	14	32
	Brush burning	223 acres†	2.5 acres	90	14	7
	Totals			4,877	14	349 man-months
February	Grapes: Pruning	96. acres †	0.75 acre	128	18	8
	Pears: Pruning	781 acres †	0.2 acre	3,905	18	217
	Brush dispcsal	781 acres †	5.0 acres	157	18	9
	Prunes: Pruning	223 acres †	0.5 acre	446	18	25
	Brush burning	223 acres †	2.5 acres	90	18	5
	Totals			4,726	18	263 man-months
March	Hops: Pruning, stringing, and training	124 acres	‡	465	17	28
	Grapes: Pruning	48 acres †	0.75 acre	64	17	4
	Pears: Pruning	312 acres †	0.2 acre	1,560	17	92
	Brush disposal	312 acres †	5.0 acres	63	17	4
	Totals			2,152	17	127 man-months
April	Hops: Pruning, stringing and training	124 acres	‡	465	20	24
	Carrot seed: Hoeing	〃	〃	240	20	12
	Onion seed: Hoeing	〃	〃	20	20	1
	Parsnip seed: Hoeing	〃	〃	30	20	2
	Totals			755	20	38 man-months
May	Hops: Pruning, stringing, and training	124 acres	‡	465	21	23
	Carrots for seed: Hoeing	〃	〃	120	21	6
	Lettuce seed: Thinning	50 acres	0.5 acre	100	21	5
	Onion seed: Hoeing	〃	〃	10	21	1

Table continued on next page.

Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
May (cont.)	Parsnip seed: Hoeing	¢	¢	15	21	1
	Pears: Blight control	3,904 acres †	¶	5,205	21	248
	Totals			5,915	21	282 man-months
June	Grain: Harvesting	1,387 acres †	5.0 acres	278	13	22 (June 15-30)
	Hay -- other than alfalfa:					
	Mowing	2,450 acres †	7.5 acres	327	12	28 (June 1-15)
	Raking	2,450 acres †	15.0 acres	164	12	14 (June 1-15)
	Shocking	2,450 acres †	30.0 acres	82	12	7 (June 1-15)
	Hops: Pruning, stringing, and training	124 acres	‡	465	25	19
	Lettuce seed: Hoeing	50 acres	0.5 acre	100	25	4
	Pears: Blight control	3,904 acres	¶	5,205	25	209
	Totals			6,621	25	265 man-months
July	Grain: Harvesting	1,387 acres †	5.0 acres	278	13	22 (July 1-15)
	Beans -- string: Picking	120 tons	250 pounds	960	13	74 (July 15-31)
	Pears: Blight control	3,904 acres †	¶	5,205	26	201
	Picking	938 tons †	1.0 ton	938	5	188 (July 25-31)
	Totals			7,381	26	284 man-months
August	Hops: Picking	272,333 pounds ‖	215.0 pounds	1,267	9	141 (Aug. 20-31)
	Drying	179,740 pounds †	4,000.0 pounds	45	9	5 (Aug. 20-31)
	Carrots for seed: Cutting by hand	24 acres	0.4 acre	60	9	7 (Aug. 20-31)
	Lettuce seed: Cutting	10 acres	0.33 acre	31	9	4 (Aug. 20-31)
	Onion seed: Cutting by hand	10 acres	**	80	13	7 (Aug. 15-31)
	Parsnip seed: Harvesting	15 acres	0.5 acre	30	13	3 (Aug. 15-31)
	Beans -- string: Picking (for canning)	300 tons	250. pounds	2,400	26	93 ††
	Almonds: Knocking	48,000 pounds	150 pounds	320	26	13
	Hulling	24,000 pounds †	500 pounds	48	26	2
	Pears: Picking	15,008 tons †	1.0 ton	15,008	26	578
	Cutting for drying	2,629 tons ‖	1,375 pounds	3,811	13	294 (Aug. 15-31)
	Other labor in dry-yard	2,366 tons ‖	‡‡	6,269	13	483 (Aug. 15-31)
	Prunes: Picking up	509 tons †	1.25 tons	408	9	46 (Aug. 20-31)
	Dipping and drying	565 tons	‡‡	469	9	53 (Aug. 20-31)
	Totals			30,246	26	1,164 man-months

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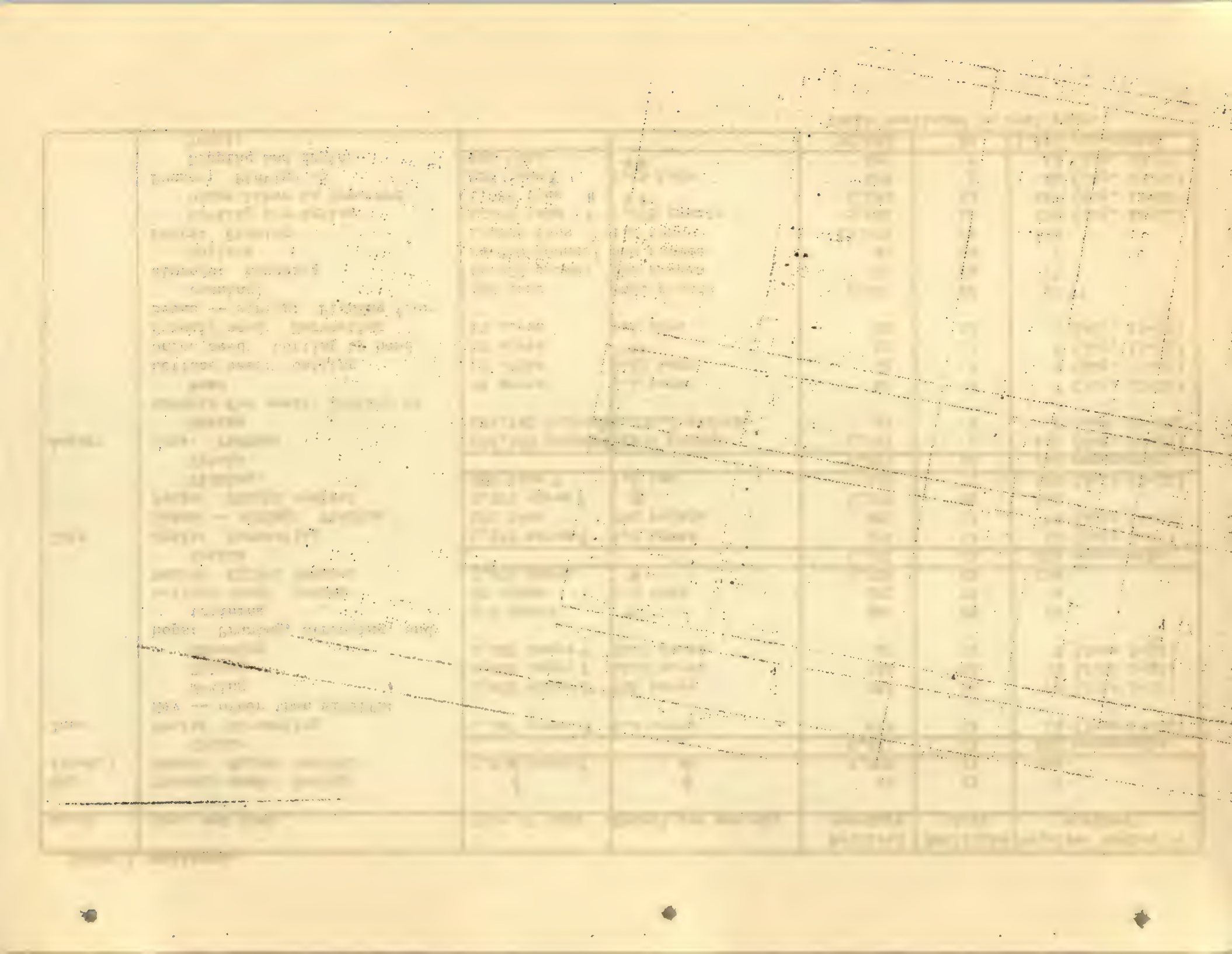

Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
September	Hops: Picking	272,333 pounds‖	215.0 pounds	1,267	8	159 (Sept. 1-10)
	Drying	179,740 pounds‖	4,000 pounds	45	8	6 (Sept. 1-10)
	Baling	572 bales †§§	12.0 bales	48	17	3 (Sept. 10-30)
	Carrots for seed: Cutting by hand	72 acres	0.4 acre	180	25	8
	Threshing	58 acres †	0.33 acre	176	25	8
	Lettuce seed: Cutting	30 acres	0.33 acre	91	25	4
	Threshing	24 acres †	0.5 acre	48	25	2
	Onion seed: Threshing	10 acres	¶¶	40	12	4 (Sept. 1-15)
	Parsnip seed: Threshing	15 acres	0.33 acre	46	12	4 (Sept. 1-15)
	Beans -- string: Picking (for canning)	180 tons	250 pounds	1,440	25	58
	Almonds: Knocking	48,000 pounds	150 pounds	320	25	13
	Hulling	24,000 pounds†	500 pounds	48	25	2
	Grapes: Picking	346 tons †	1.2 tons	289	8	37 (Sept. 20-30)
	Pears: Picking	2,814 tons†	1.0 ton	2,814	25	113
	Cutting for drying	2,628 tons ‖	1,375 pounds	3,809	25	153
	Other labor in dry-yard	2,365 tons	‡‡	6,269	25	251
	Prunes: Picking up	1,527 tons †	1,250 pounds	2,444	8	306 (Sept. 20-30)
	Dipping and drying	1,696 tons	‡‡	1,408	8	176 (Sept. 20-30)
	Totals			20,782	25	832 man-months
October	Carrots for seed: Cutting by hand	24 acres	0.4 acre	60	7	9 (Oct. 1-10)
	Threshing	38 acres †	0.33 acre	116	14	9 (Oct. 1-20)
	Lettuce seed: Cutting	10 acres	0.33 acre	31	7	5 (Oct. 1-10)
	Threshing	16 acres †	0.5 acre	32	14	3 (Oct. 1-20)
	Grapes: Picking	518 tons †	1.2 tons	432	21	21
	Pears: Other labor in dry-yard	526 tons ‖	‡‡	1,393	21	67
	Prunes: Picking up	3,053 tons †	1,250 pounds	4,885	21	233
	Dipping and drying	3,393 tons	‡‡	2,828	21	135
	Walnuts: Picking up	347 tons †	0.15 ton	2,314	21	111
	Totals			12,091	21	576 man-months
November	Pears: Pruning	468 acres †	0.2 acre	2,340	21	112
	Brush disposal	468 acres †	5.0 acres	94	21	5
	Walnuts: Picking up	38 tons †	300 pounds	254	5	51 (Nov. 1-7)
	Totals			2,688	21	128 man-months

Table continued on next page.

Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
December	Carrot seed: Planting	60 acres	0.5 acre	120	14	9
	Onion seed: Planting	5. acres	0.3 acre	17	14	2
	Parsnip seed: Planting	8 acres	0.5 acre	16	14	2
	Pears: Pruning	781 acres†	0.2 acre	3,905	14	279
	Brush disposal	781 acres†	5.0 acres	157	14	12
	Prunes: Pruning	224 acres†	0.5 acre	448	14	32
	Brush burning	224 acres†	2.5 acres	90	14	7
	Totals			4,753	14	340 man-months

* On a monthly basis unless otherwise noted.

† Estimated portion of the job done by seasonal workers.

‡ Hops, pruning, stringing, and training, estimated to require 15 man-days per acre distributed through March, April, May and June.

§ Hoeing on these crops estimated to require a total of 3 man-days per acre, two-thirds of the job in April and one-third in May.

¶ Blight control on pears varies greatly. Averaged about 4 man-days per acre, the total acreage being covered 8 times during the 3 months.

‖ Green weight.

** One-eighth of an acre per man-day.

†† In 1935 about 300 men were employed picking beans on 100 acres in August.

‡‡ Dry-yard labor, other than cutting, estimated as follows:

Pears -- 26.5 man-hours per fresh ton dried.
Prunes -- 8.3 man-hours per fresh ton dried.

§§ Dry-weight, 200 pounds to the bale.

¶¶ These operations estimated to require a total of 4 man-days per acre.

TABLE 4

Summary of Seasonal Labor Needs by Months

Lake County

1935

Month	Required man-days of seasonal labor	Available days	Required man-months of seasonal labor
January	4,877	14	349
February	4,726	18	263
March	2,152	17	127
April	755	20	38
May	5,915	21	282
June	6,621	25	265
July	7,381	26	284
August	30,246	26	1,164
September	20,782	25	832
October	12,091	21	576
November	2,688	21	128
December	4,753	14	340
Total	102,987	--	4,648

Notes

Notes on Table 2.-- Data concerning "time of need" as shown in this table break down required seasonal labor into the period in which the work is performed in order to permit a subsequent determination of labor needs by months (table 3). Some operations are performed only to a limited extent with seasonal labor. For instance, only about 50 per cent of the labor in harvesting grain is done by seasonal workers. When a job extends over several different months, the proportionate amount for each month is shown.

The amount of work done each month is based on the cropping system followed during 1935. The allotting of amounts of work is based on findings concerning local farm practices, and required time to "make" a crop resulting from inquiry of producers, and records of carlot shipments, the latter proving helpful in fixing dates of planting and of subsequent tasks involved in producing certain crops. Proportionate amounts of output harvested each month were determined from data of local practices with respect to harvesting, and from carlot shipments of perishable products. Records of truck shipments were also used when available.

Notes on Table 3.-- Table 3 is the condensed summary of labor needs as worked out for Lake County as a result of findings pertinent to 1935. The data are presented by months with the tasks which were performed in each month indicated by both crop and task. The size of the job was calculated from the data appearing in table 1 (acreage and production) and table 2 (task, time of performance, and percentage of work pertinent to a given month). The output per man-day was calculated as indicated in the foreword presenting table 3. The number of required man-days is a result of dividing the size of task by output per man-day. The available days for the different tasks involve two variables. The first is the number of days when field work is possible because of favorable weather conditions. The basis for this column was determined from a study of the monthly weather charts of the United States Weather Bureau for the years 1933, 1934, and 1935. These data indicated available days per month as follows (based on a 26-day working month without allowance for holidays):

Month	Available days	Length of work day	Month	Available days	Length of work day
		hours			hours
January	14	9	July	26	10
February	18	9	August	26	10
March	17	10	September	25	10
April	20	10	October	21	10
May	21	10	November	21	9
June	25	10	December	14	9

The second factor influencing the number of available days was the size of the job. If the output was only a few cars, then the number of days was limited to the time needed to get out those cars efficiently. If a field operation had to be performed in a period less than the number of available days in the month, then the specific number of days was noted. These restrictions are shown in parentheses. For example, in July the picking of pears was limited to the last 7 days of the month.

The totals of table 3 show the total required man-days of needed seasonal labor, the available days for field work during the month, and the necessary number of men (as defined in the opening paragraph of table 3) required on a monthly basis to care for the tasks ordinarily performed by seasonal workers.

In an area such as Lake County, involving a variety of annual crops, the findings as set forth in this report are bound to fluctuate materially from year to year, because of the market outlook upon what and how much acreage is planted, and when it is planted; because of variable seasonal conditions affecting yields, time of performing operations, and available days; and because of harvesting operations on certain crops being speeded up to supply a good market, or retarded to avoid a poor one, resulting in marked variations in the need for harvest labor.